CLAIMS

1. A highly functional soy protein material prepared by a method comprising:

(a) hydrating a suspension of a soy protein material in an aqueous composition;

(b) adjusting the pH of the aqueous composition containing the hydrated soy protein material to about 9 to about 11 by adding an edible base; and

(c) mixing the pH-adjusted aqueous composition at a temperature of about 40 to about 80°C for about 0.5 to about 4 hours to obtain the highly functional soy protein material in a final aqueous composition.

2. The highly functional soy protein material as in claim 1, wherein the method further comprises collecting the highly functional soy protein material by adjusting the pH of the final aqueous composition to about neutral by addition of an edible acid and then concentrating or drying the highly functional protein material.

3. The highly functional soy protein material as in claim 1, wherein the soy protein material is selected from the group consisting of soy milk, soy flour, soy concentrates, soy protein isolates, and mixtures thereof.

4. The highly functional soy protein material as in claim 1, wherein the soy protein material is contained in the aqueous composition at a solids level of about 5 to about 20 percent.

5. A method of preparing a highly functional soy protein material, said method comprising:

(a) hydrating a suspension of a soy protein material in an aqueous composition;

(b) adjusting the pH of the aqueous composition containing the hydrated soy protein material to about 9 to about 11 by adding an edible base; and

(c) mixing the pH-adjusted aqueous composition at a temperature of about 40 to about 80°C for about 0.5 to about 4 hours to obtain the highly functional soy protein material in a final aqueous composition.

6. The method as in claim 5 further comprising collecting the highly functional soy protein material by adjusting the pH of the final aqueous composition to about neutral by addition of an edible acid and then concentrating or drying the highly functional protein material.

7. The method as in claim 5, wherein the soy protein material is selected from the group consisting of soy milk, soy flour, soy concentrates, soy protein isolates, and mixtures thereof.

8. The method as in claim 5, wherein the soy protein material is contained in the aqueous composition at a solids level of about 5 to about 20 percent.

9. A soy-containing food product comprising a highly functional soy protein, said highly functional soy protein being prepared by a method comprising

(a) hydrating a suspension of a soy protein material in an aqueous composition;

(b) adjusting the pH of the aqueous composition containing the hydrated soy protein material to about 9 to about 11 by adding an edible base; and

(c) mixing the pH-adjusted aqueous composition at a temperature of about 40 to about 80°C for about 0.5 to about 4 hours to obtain the highly functional soy protein material in a final aqueous composition.

10. The soy-containing food product as in claim 9, wherein the method further comprises collecting the highly functional soy protein material by adjusting the pH of the final aqueous composition to about neutral by addition of an edible acid and then concentrating or drying the highly functional protein material.

11. The soy-containing food product as in claim 9, wherein the soy protein material is selected from the group consisting of soy milk, soy flour, soy concentrates, soy protein isolates, and mixtures thereof.

12. The soy-containing food product as in claim 9, wherein the soy protein material is contained in the aqueous composition at a solids level of about 5 to about 20 percent.

13. The soy-containing food product as in claim 9, wherein the food product is selected from the group consisting of dairy and non-dairy beverages, smoothies, health drinks, cheeses products, fermented dairy-type products, dairy and non-dairy yogurts, meat and meat analog products, cereals, baked products, and snacks.

14. The soy-containing food product as in claim 9, wherein the food product is selected from the group consisting of meat and meat analog products.

15. The soy containing food product of claim 10, wherein the soy-containing food product contains about 2 to about 15 g soy protein per single serving size of about 100 g.

16. The soy containing food product of claim 13, wherein the soy-containing food product contains about 2 to about 15 g soy protein per single serving size of about 100 g.

17. The soy containing food product of claim 14, wherein the soy-containing food product contains about 2 to about 15 g soy protein per single serving size of about 100 g.